8VM800M-RZ

Intel® Pentium® 4 Processor Motherboard

User's Manual

Rev. 1002

12ME-VM800MRZ-1002

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Notice

Please do not remove any labels on motherboard, this may void the warranty of this motherboard.

Due to rapid change in technology, some of the specifications might be out of date before publication of this booklet.

The author assumes no responsibility for any errors or omissions that may appear in this document nor does the author make a commitment to update the information contained herein.

Declaration of Conformity

We, Manufacturer/Importer
(full address)

G.B.T. Technology Trading GMbH
Ausschlager Weg 41, 1F 20537 Hamburg, Gemany

declare that the product
(description of the apparatus, system, installation to which it refers)

Mother Board
8VM800M-RZ
is in conformity with
(reference to the specification under which conformity is declared)
in accordance with 89/336 EEC-EMC Directive

☐ **EN 55011**	Limits and methods of measurement of radio disturbance characteristics of industrial, scientific and medical (ISM) high frequency equipment	☒ **EN 61000-3-2**	Disturbances in supply systems caused
		☒ **EN 61000-3-3**	Disturbances in supply systems caused by household appliances and similar electrical equipment "Voltage fluctuations"
☐ **EN 55013**	Limits and methods of measurement of radio disturbance characteristics of broadcast receivers and associated equipment	☒ **EN 55024**	Information Technology equipment-Immunity characteristics-Limits and methods of measurement
☐ **EN 55014-1**	Limits and methods of measurement of radio disturbance characteristics of household electrical appliances, portable tools and similar electrical apparatus	☐ **EN 50082-1**	Generic immunity standard Part 1: Residual, commercial and light industry
		☐ **EN 50082-2**	Generic immunity standard Part 2: Industrial environment
☐ **EN 55015**	Limits and methods of measurement of radio disturbance characteristics of fluorescent lamps and luminaries	☐ **EN 55014-2**	Immunity requirements for household appliances tools and similar apparatus
☐ **EN 55020**	Immunity from radio interference of broadcast receivers and associated equipment	☐ **EN 50091- 2**	EMC requirements for uninterruptible power systems (UPS)
☒ **EN 55022**	Limits and methods of measurement of radio disturbance characteristics of information technology equipment		
☐ **DIN VDE 0855** ☐ **part 10** ☐ **part 12**	Cabled distribution systems; Equipment for receiving and/or distribution from sound and television signals		

☒ **CE marking** CE (EC conformity marking)

The manufacturer also declares the conformity of above mentioned product with the actual required safety standards in accordance with LVD 73/23 EEC

☐ **EN 60065**	Safety requirements for mains operated electronic and related apparatus for household and similar general use	☐ **EN 60950**	Safety for information technology equipment including electrical business equipment
☐ **EN 60335**	Safety of household and similar electrical appliances	☐ **EN 50091-1**	General and Safety requirements for uninterruptible power systems (UPS)

Manufacturer/Importer

(Stamp)

Date : May 31, 2004

Signature : *Timmy Huang*

Name : Timmy Huang

DECLARATION OF CONFORMITY

Per FCC Part 2 Section 2.1077(a)

Responsible Party Name: G.B.T. INC. (U.S.A.)

Address: 17358 Railroad Street
City of Industry, CA 91748

Phone/Fax No: (818) 854-9338/ (818) 854-9339

hereby declares that the product

Product Name: Motherboard

Model Number: 8VM800M-RZ

Conforms to the following specifications:

FCC Part 15, Subpart B, Section 15.107(a) and Section 15.109 (a),Class B Digital Device

Supplementary Information:

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful and (2) this device must accept any inference received, including that may cause undesired operation.

Representative Person's Name: ERIC LU

Signature: *Eric Lu*

Date: May 31, 2004

Preparing Your Computer

Computer motherboards and expansion cards contain very delicate Integrated Circuit (IC) chips. To protect them against damage from static electricity, you should follow some precautions whenever you work on your computer.

1. Unplug your computer when working on the inside.
2. Use a grounded wrist strap before handling computer components. If you do not have one, touch both of your hands to a safely grounded object or to a metal object, such as the power supply case.
3. Hold components by the edges and try not touch the IC chips, leads or connectors, or other components.
4. Place components on a grounded antistatic pad or on the bag that came with the components whenever the components are separated from the system.
5. Ensure that the ATX power supply is switched off before you plug in or remove the ATX power connector on the motherboard.

Installing the motherboard to the chassis

If the motherboard has mounting holes, but they don't line up with the holes on the base and there are no slots to attach the spacers, do not become alarmed you can still attach the spacers to the mounting holes. Just cut the bottom portion of the spacers (the spacer may be a little hard to cut off, so be careful of your hands). In this way you can still attach the motherboard to the base without worrying about short circuits. Sometimes you may need to use the plastic springs to isolate the screw from the motherboard PCB surface, because the circuit wire may be near by the hole. Be careful, don't let the screw contact any printed circuit write or parts on the PCB that are near the fixing hole, otherwise it may damage the board or cause board malfunctioning.

English

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Chapter 1 Introduction

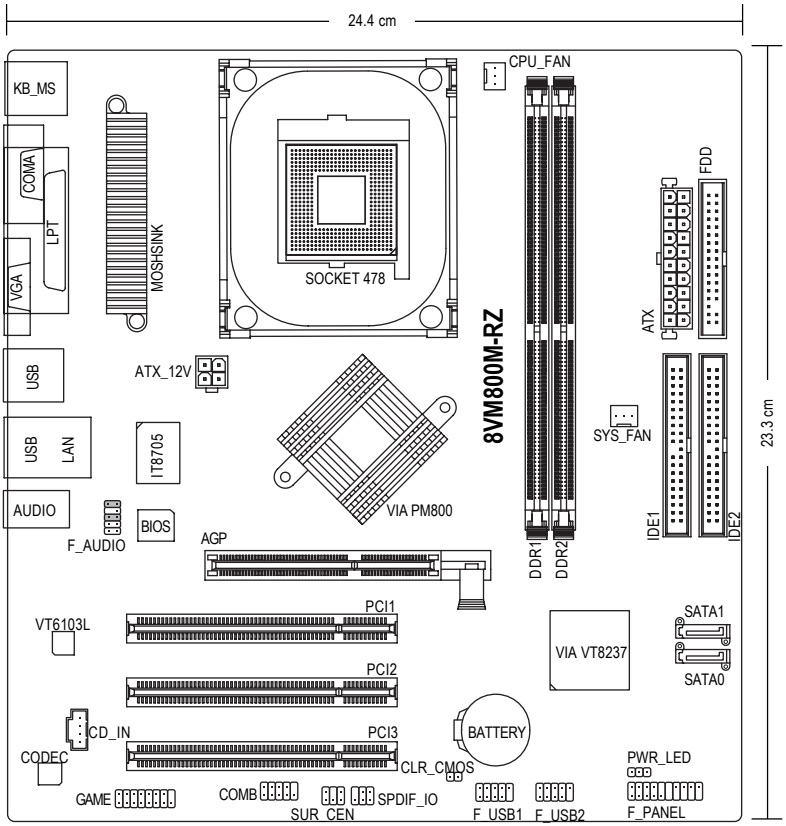
Features Summary

CPU	• Socket 478 for Intel® Pentium® 4(Northwood, Prescott) with HT Technology • Intel® Pentium® 4 533/400MHz FSB • 2nd cache depends on CPU
Chipset	• Northbridge : VIA PM800 • Southbridge : VIA 8237R
Memory	• 2 184-pin DDR DIMM sockets, supports up to 2GB DRAM (Max) • Supports DDR400/DDR333/DDR266 DIMM
Slots	• 1 AGP slot supports 8X/4X(1.5V) mode • 3 PCI slots
On-Board IDE	• 2 IDE controller provide IDE HDD/CD-ROM(IDE1, IDE2) with PIO, Bus Master (Ultra DMA33/ATA66/ATA100/ATA133) operation modes • Can connect up to 4 IDE devices
On-Board Floppy	• 1 Floppy port supports 2 FDD with 360K, 720K,1.2M, 1.44M and 2.88M bytes
On-Board SATA	• 2 Serial ATA connectors (Note)
On-Board Peripherals	• 1 Parallel port supports Normal/EPP/ECP mode • 1 Serial port (COMA), 1 VGA port, COMB on-board • 8 USB 2.0/1.1 ports (4 x Rear, 4 x Front by cable) • 1 Front audio connector • 1 PS/2 keyboard • 1 PS/2 mouse
On-Board VGA	• Built-in VIA PM800
On-Board LAN	• Builit-in VIA VT6103L chipset • 1 RJ45 port
On-Board Sound	• CMI 9761 codec • Supports 2/4/6-channel • Line Out / Line In / Mic In • SPDIF In / Out • CD In / Game connector
On-Board SATA RAID	• Built-in VIA VT8237R • Supports disk striping (RAID 0) or disk mirroring (RAID 1) • Supports up to 150MB/s data transfer rate • Supports hot plug function • Up to 2 SATA devices
BIOS	• Licensed AWARD BIOS • Supports Q-Flash
I/O Control	• IT8705
Hardware Monitor	• CPU/System fan revolution detect • CPU temperature detect • System voltage detect • CPU/System fan fail warning • Thermal shutdown function

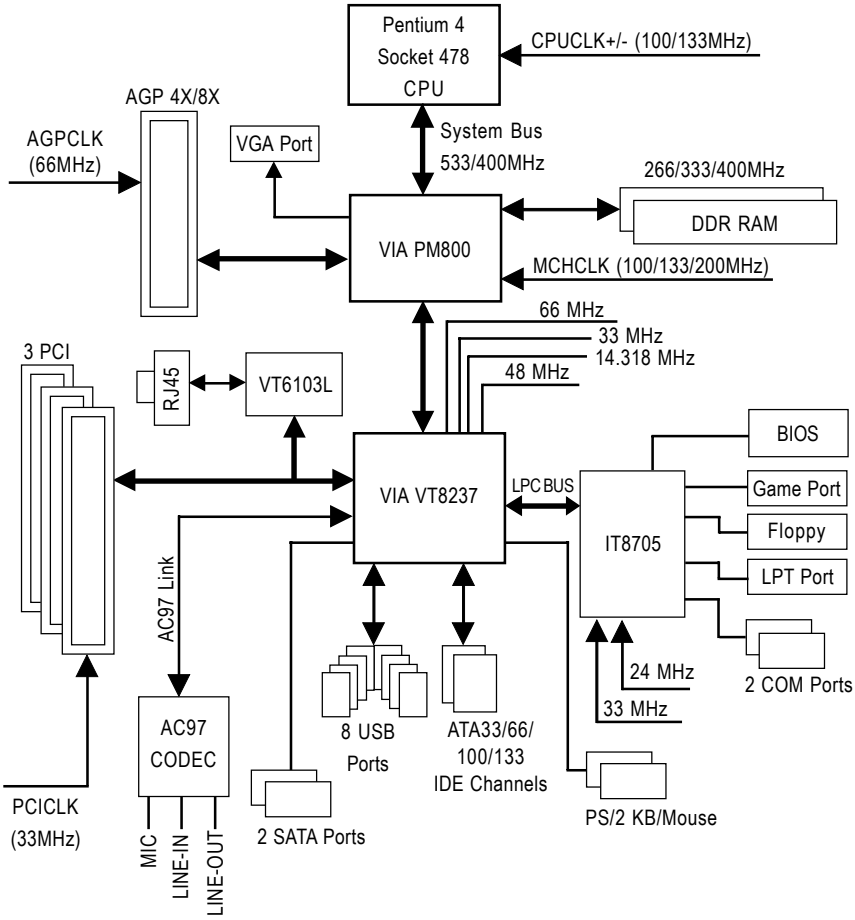
(Note) It is recommended to use SATA (1.5Gb/s) hard disks.

Additional Features	• Supports @BIOS • Supports EasyTune
Overclocking	• Over voltage (AGP/DDR) by BIOS • Over clock (CPU/DDR) by BIOS
Form Factor	• Micro ATX size form factor, 24.4cm x 23.3cm

8VM800M-RZ Motherboard Layout



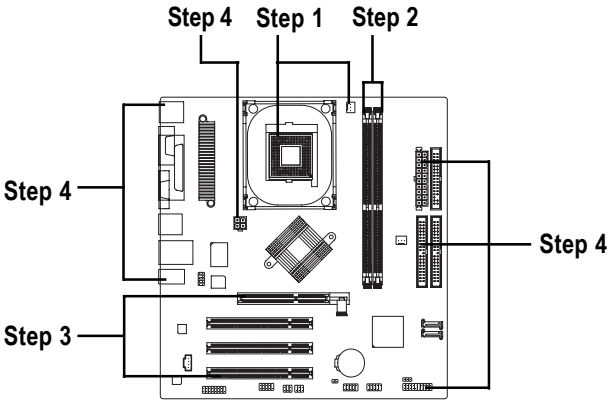
Block Diagram



Hardware Installation Process

To set up your computer, you must complete the following steps:

Step 1- Install the Central Processing Unit (CPU)
Step 2- Install memory modules
Step 3- Install expansion cards
Step 4- Install I/O Peripherals Cables



Step 1: Install the Central Processing Unit (CPU)

CAUTION

Before installing the processor, adhere to the following warning:

1. Please make sure the CPU type is supported by the motherboard.
2. The processor will overheat without the heatsink and/or fan, resulting in permanent irreparable damage.
3. If you do not match the CPU socket Pin 1 and CPU cut edge well, it will cause improper installation. Please change the insert orientation.
4. Apply thermal grease between the processor and cooling fan.
5. Never run the processor without the heatsink properly and firmly attached. Permanent damage will result.
6. Please set the CPU host frequency in accordance with your processor's specifications. We don't recommend you to set the system bus frequency over the CPU's specification because these specific bus frequencies are not the standard specifications for CPU, chipset and most of the peripherals. Whether your system can run under these specific bus frequencies properly will depend on your hardware configurations, including CPU, Memory, Cards...etc.

NOTE

HT functionality requirement content :

Enabling the functionality of Hyper-Threading Technology for your computer system requires all of the following platform components:

- CPU: An Intel® Pentium 4 Processor with HT Technology
- Chipset: An Intel® Chipset that supports HT Technology
- BIOS: A BIOS that supports HT Technology and has it enabled
- OS: An operation system that has optimizations for HT Technology

Step 1-1: CPU Installation

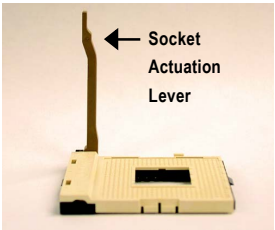


Figure 1.
Pull the rod to the 90-degree directly.

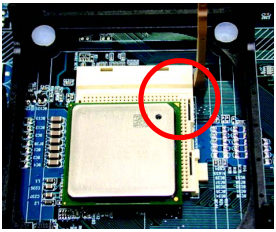


Figure 2.
Locate Pin 1 in the socket and look for a (golden) cut edge on the CPU upper corner. Insert the CPU into the socket. (Do not force the CPU into the socket.) Then move the socket lever to the locked position while holding pressure on the center of the CPU.

Step 1-2: CPU Cooling Fan Installation

Figure 1.
Apply the thermal tape(or grease) to provide better heat conduction between your CPU and cooling fan.

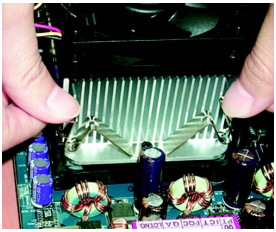


Figure 2.
Fasten the cooling fan supporting-base onto the CPU socket on the motherboard.

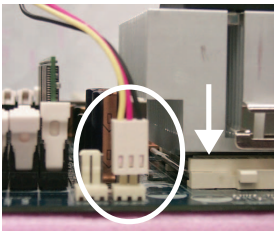


Figure 3.
Make sure the CPU fan is plugged to the CPU fan connector, than install completely.

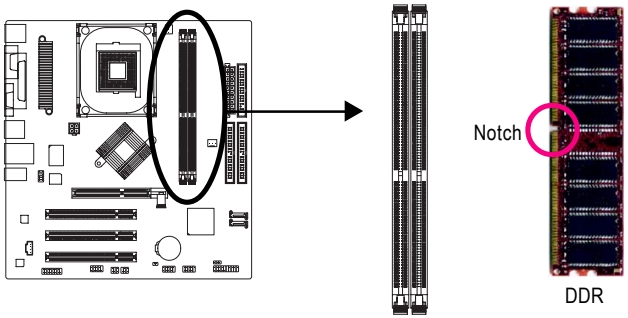
Step 2: Install Memory Modules

CAUTION

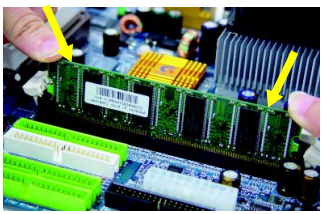
Before installing the memory modules, adhere to the following warning:

1. When DIMM LED is ON, do not install / remove DIMM from socket.
2. Please note that the DIMM module can only fit in one direction due to the one notch. Wrong orientation will cause improper installation. Please change the insert orientation.

The motherboard has 2 dual inline memory module (DIMM) sockets. The BIOS will automatically detects memory type and size. To install the memory module, just push it vertically into the DIMM socket. The DIMM module can only fit in one direction due to the notch. Memory size can vary between sockets.



1. The DIMM socket has a notch, so the DIMM memory module can only fit in one direction.



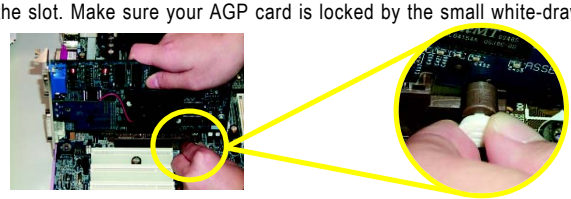
2. Insert the DIMM memory module vertically into the DIMM socket. Then push it down.

3. Close the plastic clip at both edges of the DIMM sockets to lock the DIMM module.
   Reverse the installation steps when you wish to remove the DIMM module.

Step 4: Install AGP Card

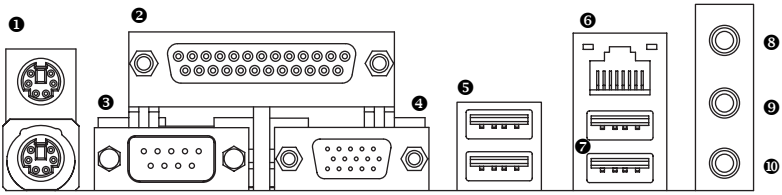
1. Read the relate AGP card's instruction document before install the AGP card into the computer.
2. If your AGP card has "AGP 4X/8X(1.5V) notch"(show below), please make sure your AGP card is AGP 4X/8X(1.5V).

3. Please carefully pull out the small white-drawable bar at the end of the AGP slot when you try to install/uninstall the AGP card. Please align the AGP card to the onboard AGP slot and press firmly down on the slot. Make sure your AGP card is locked by the small white-drawable bar.



Step 4: Install I/O Peripherals Cables

Step 4-1: I/O Back Panel Introduction



❶ PS/2 Keyboard and PS/2 Mouse connector

This connector supports standard PS/2 keyboard and PS/2 mouse.

❷ Parallel port (LPT)

Device like printer can be connected to Parallel port.

❸ Serial port (COMA)

Mouse and modem etc. can be connected to Serial port.

❹ VGA port

Monitor can be connected to VGA port.

❺❼USB port

Before you connect your device(s) into USB connector(s), please make sure your device(s) such as USB keyboard, mouse, scanner, zip, speaker...etc. Have a standard USB interface. Also make sure your OS supports USB controller. If your OS does not support USB controller, please contact OS vendor for possible patch or driver upgrade. For more information please contact your OS or device(s) vendors.

❻ LAN port

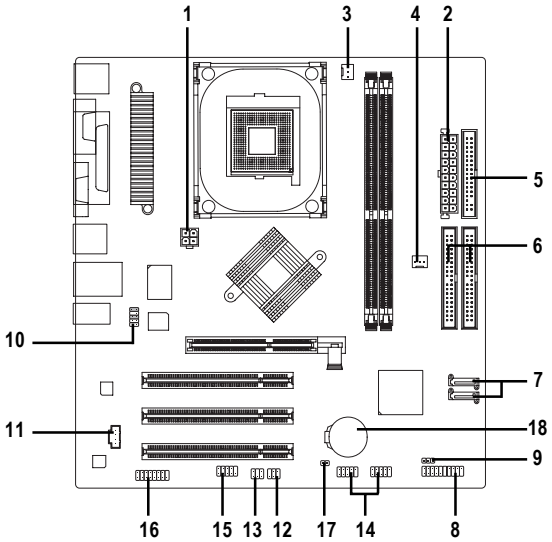
LAN is fast Ethernet with 10/100Mbps speed.

❽ **Line In jack**
Devices like CD-ROM, walkman etc. can be connect to Line In jack.

❾ **Line Out jack**
Connect the stereo speakers or earphone to this connector.

❿ **MIC In jack**
Microphone can be connect to MIC In jack.
After installation of the audio driver, you are able to use 2/4/6-channel audio feature by software selection. You can connect "Front speaker" to "Line Out" jack, Connect "Rear speaker" to "Line In" jack and connect "Center/Subwoofer" to "MIC In" jack.

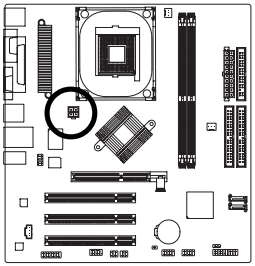
Step 4-2: Connectors Introduction



1) ATX_12V	10) F_AUDIO
2) ATX	11) CD_IN
3) CPU_FAN	12) SPDIF_IO
4) SYS_FAN	13) SUR_CEN
5) FDD	14) F_USB1 / F_USB2
6) IDE1 / IDE2	15) COMB
7) SATA0 / SATA1	16) GAME
8) F_PANEL	17) CLR_CMOS
9) PWR_LED	18) BATTERY

1) ATX_12V (+12V Power Connector)

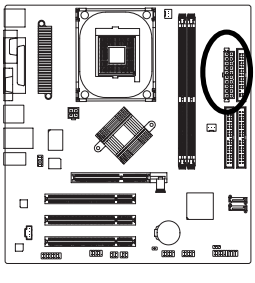
This connector (ATX_12V) supplies the CPU operation voltage (Vcore).
If this "ATX_12V connector" is not connected, system cannot boot.

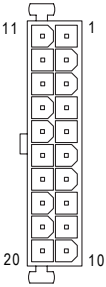


Pin No.	Definition
1	GND
2	GND
3	+12V
4	+12V

2) ATX (ATX Power)

AC power cord should only be connected to your power supply unit after ATX power cable and other related devices are firmly connected to the mainboard.

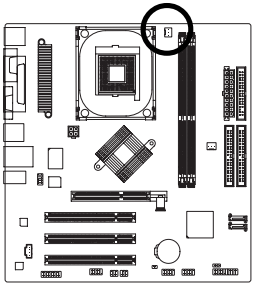




Pin No.	Definition	Pin No.	Definition
1	3.3V	11	3.3V
2	3.3V	12	-12V
3	GND	13	GND
4	VCC	14	PS_ON(soft on/off)
5	GND	15	GND
6	VCC	16	GND
7	GND	17	GND
8	Power Good	18	-5V
9	5V SB (stand by +5V)	19	VCC
10	+12V	20	VCC

3) CPU_FAN (CPU Fan Connector)

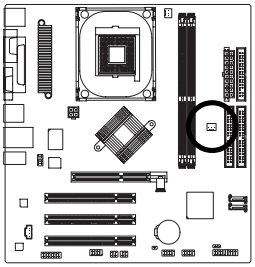
Please note, a proper installation of the CPU cooler is essential to prevent the CPU from running under abnormal condition or damaged by overheating. The CPU fan connector supports Max. current up to 600 mA.



Pin No.	Definition
1	GND
2	+12V
3	Sense

4) SYS_FAN (System Fan Connector)

This connector allows you to link with the cooling fan on the system case to lower the system temperature.

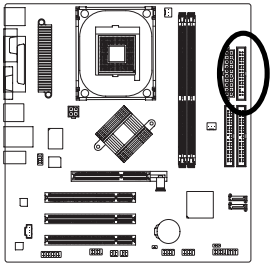


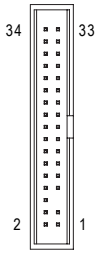
Pin No.	Definition
1	GND
2	+12V
3	Sense

5) FDD (Floppy Connector)

Please connect the floppy drive ribbon cables to FDD. It supports 360K, 1.2M, 720K, 1.44M and 2.88M bytes floppy disk types.

The red stripe of the ribbon cable must be the same side with the Pin1.

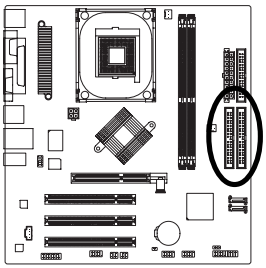


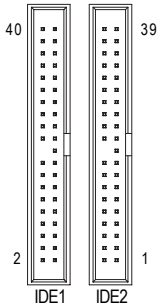


6) IDE1 / IDE2 (IDE1 / IDE2 Connector)

Please connect first hard disk to IDE1 and connect CD-ROM to IDE2.

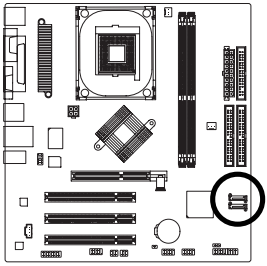
The red stripe of the ribbon cable must be the same side with the Pin1.





7) SATA0 / SATA1 (Serial ATA Connector)

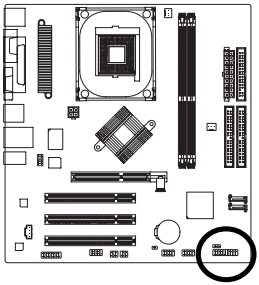
You can connect the Serial ATA device to this connector. If you wish to use RAID function, please use it in unity with BIOS and install the correct driver to have proper operation.

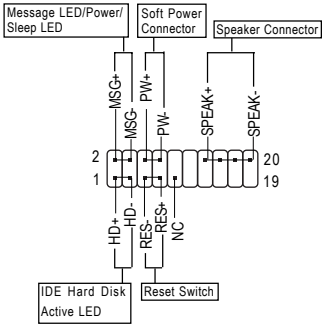


Pin No.	Definition
1	GND
2	TXP
3	TXN
4	GND
5	RXN
6	RXP
7	GND

8) F_PANEL (Front Panel Connector)

Please connect the power LED, PC speaker, reset switch and power switch etc. of your chassisfront panel to the F_PANEL connector according to the pin assignment below.

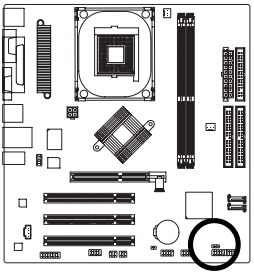




HD (IDE Hard Disk Active LED)	Pin 1: LED anode(+) Pin 2: LED cathode(-)
SPK (Speaker Connector)	Pin 1: VCC(+) Pin 2- Pin 3: NC Pin 4: Data(-)
RES (Reset Switch)	Open: Normal Operation Close: Reset Hardware System
PW (Soft Power Connector)	Open: Normal Operation Close: Power On/Off
MSG (Message LED/ Power/ Sleep LED)	Pin 1: LED anode(+) Pin 2: LED cathode(-)
NC	NC

9) PWR_LED

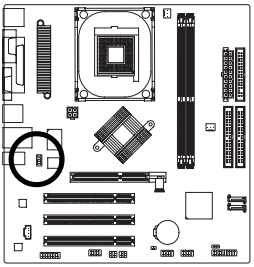
PWR_LED is connect with the system power indicator to indicate whether the system is on/off. It will blink when the system enters suspend mode.



Pin No.	Definition
1	MPD+
2	MPD-
3	MPD-

10) F_AUDIO (Front Audio Connector)

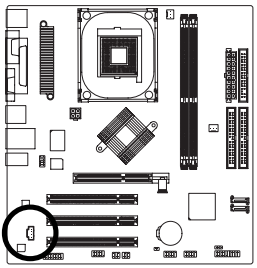
If you want to use Front Audio connector, you must remove 5-6, 9-10 Jumper.
In order to utilize the front audio header, your chassis must have front audio connector. Also please make sure the pin assigment on the cable is the same as the pin assigment on the MB header. To find out if the chassis you are buying support front audio connector, please contact your dealer. Please note, you can have the alternative of using front audio connector or of using rear audio connector to play sound.



Pin No.	Definition
1	MIC
2	GND
3	MIC_BIAS
4	Power
5	Front Audio (R)
6	Rear Audio (R)
7	Reserved
8	No Pin
9	Front Audio (L)
10	Rear Audio (L)

11) CD_IN (CD In Connector)

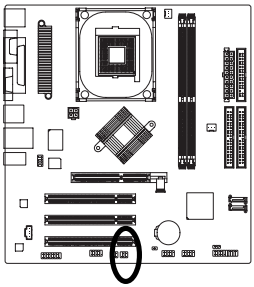
Connect CD-ROM or DVD-ROM audio out to the connector.



Pin No.	Definition
1	CD-L
2	GND
3	GND
4	CD-R

12) SPDIF_IO (SPDIF In/Out Connector)

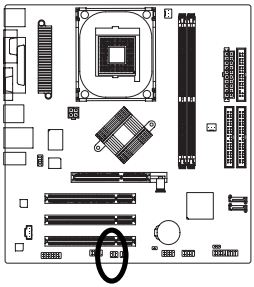
The SPDIF output is capable of providing digital audio to external speakers or compressed AC3 data to an external Dolby Digital Decoder. Use this feature only when your stereo system has digital input function. Be careful with the polarity of the SPDIF_IO connector. Check the pin assignment carefully while you connect the SPDIF cable, incorrect connection between the cable and connector will make the device unable to work or even damage it. For optional SPDIF cable, please contact your local dealer.



Pin No.	Definition
1	VCC
2	No Pin
3	SPDIF
4	SPDIFI
5	GND
6	GND

13) SUR_CEN (Surround Center Connector)

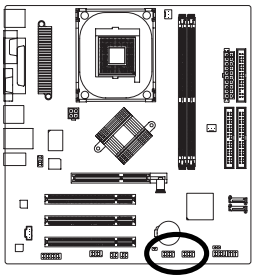
Please contact your nearest dealer for optional SUR_CEN cable.



Pin No.	Definition
1	SUR OUTL
2	SUR OUTR
3	GND
4	No Pin
5	CENTER_OUT
6	BASS_OUT

14) F_USB1 / F_USB2 (Front USB Connector)

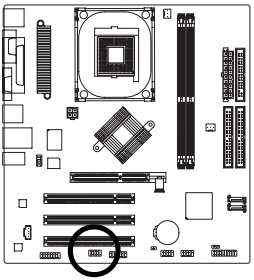
Be careful with the polarity of the front USB connector. Check the pin assignment carefully while you connect the front USB cable, incorrect connection between the cable and connector will make the device unable to work or even damage it. For optional front USB cable, please contact your local dealer.



Pin No.	Definition
1	Power
2	Power
3	USB Dx-
4	USB Dy-
5	USB Dx+
6	USB Dy+
7	GND
8	GND
9	No Pin
10	NC

15) COMB (COM B Connector)

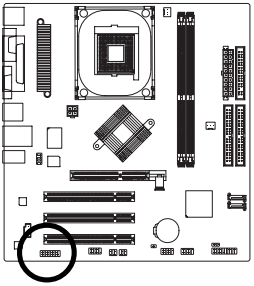
Be careful with the polarity of the COMB connector. Check the pin assignment carefully while you connect the COMB cable, incorrect connection between the cable and connector will make the device unable to work or even damage it. For optional COMB cable, please contact your local dealer.



Pin No.	Definition
1	NDCDB-
2	NSINB
3	NSOUTB
4	NDTRB-
5	GND
6	NDSRB-
7	NRTSB-
8	NCTSB-
9	NRIB-
10	No Pin

16) GAME (GAME Connector)

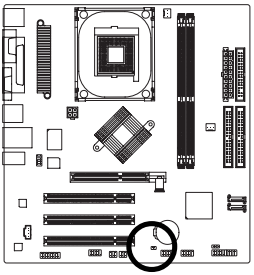
This connector supports joystick, MIDI keyboard and other relate audio devices.



Pin No.	Definition	Pin No.	Definition
1	VCC	9	GPSA1
2	GRX1_R	10	GND
3	GND	11	GPY1_R
4	GPSA2	12	VCC
5	VCC	13	GPSB1
6	GPX2_R	14	MSO_R
7	GPY2_R	15	GPSB2
8	MSI_R	16	No Pin

17) CLR_CMOS (Clear CMOS)

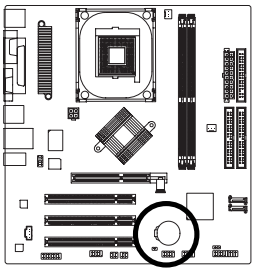
You may clear the CMOS data to its default values by this jumper. To clear CMOS, temporarily short 1-2 pin. Default doesn't include the "Shunter" to prevent from improper use this jumper.

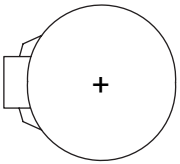


Open: Normal

Short: Clear CMOS

18) BATTERY





CAUTION

- Danger of explosion if battery is incorrectly replaced.
- Replace only with the same or equivalent type recommended by the manufacturer.
- Dispose of used batteries according to the manufacturer's instructions.

If you want to erase CMOS...

1. Turn OFF the computer and unplug the power cord.
2. Remove the battery, wait for 30 second.
3. Re-install the battery.
4. Plug the power cord and turn ON the computer.

Chapter 2 BIOS Setup

BIOS Setup is an overview of the BIOS Setup Program. The program that allows users to modify the basic system configuration. This type of information is stored in battery-backed CMOS RAM so that it retains the Setup information when the power is turned off.

ENTERING SETUP

Powering ON the computer and pressing <Del> immediately will allow you to enter Setup. If you require more advanced BIOS settings, please go to "Advanced BIOS" setting menu. To enter Advanced BIOS setting menu, press "Ctrl+F1" key on the BIOS screen.

CONTROL KEYS

<↑><↓><←><→>	Move to select item
<Enter>	Select Item
<Esc>	Main Menu - Quit and not save changes into CMOS Status Page Setup Menu and Option Page Setup Menu - Exit current page and return to Main Menu
<+/PgUp>	Increase the numeric value or make changes
<-/PgDn>	Decrease the numeric value or make changes
<F1>	General help, only for Status Page Setup Menu and Option Page Setup Menu
<F2>	Item Help
<F5>	Restore the previous CMOS value from CMOS, only for Option Page Setup Menu
<F6>	Load the file-safe default CMOS value from BIOS default table
<F7>	Load the Optimized Defaults
<F8>	Q-Flash utility
<F9>	System Information
<F10>	Save all the CMOS changes, only for Main Menu

Main Menu

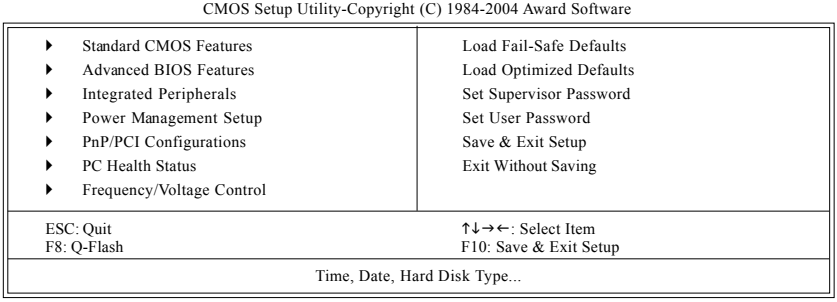
The on-line description of the highlighted setup function is displayed at the bottom of the screen.

Status Page Setup Menu / Option Page Setup Menu

Press F1 to pop up a small help window that describes the appropriate keys to use and the possible selections for the highlighted item. To exit the Help Window press <Esc>.

The Main Menu (For example: BIOS Ver. : E31)

Once you enter Award BIOS CMOS Setup Utility, the Main Menu (as figure below) will appear on the screen. The Main Menu allows you to select from eight setup functions and two exit choices. Use arrow keys to select among the items and press <Enter> to accept or enter the sub-menu.



If you can't find the setting you want, please press "Ctrl+F1" to search the advanced option hidden.

- **Standard CMOS Features**
  This setup page includes all the items in standard compatible BIOS.
- **Advanced BIOS Features**
  This setup page includes all the items of Award special enhanced features.
- **Integrated Peripherals**
  This setup page includes all onboard peripherals.
- **Power Management Setup**
  This setup page includes all the items of Green function features.
- **PnP/PCI Configuration**
  This setup page includes all the configurations of PCI & PnP ISA resources.
- **PC Health Status**
  This setup page is the System auto detect Temperature, voltage, fan, speed.
- **Frequency/Voltage Control**
  This setup page is control CPU clock and frequency ratio.
- **Load Fail-Safe Defaults**
  Fail-Safe Defaults indicates the value of the system parameters which the system would be in safe configuration.
- **Load Optimized Defaults**
  Optimized Defaults indicates the value of the system parameters which the system would be in best performance configuration.
- **Set Supervisor Password**
  Change, set, or disable password. It allows you to limit access to the system and Setup, or just to Setup.
- **Set User Password**
  Change, set, or disable password. It allows you to limit access to the system.
- **Save & Exit Setup**
  Save CMOS value settings to CMOS and exit setup.
- **Exit Without Saving**
  Abandon all CMOS value changes and exit setup.

Standard CMOS Features

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Standard CMOS Features

Date (mm:dd:yy)	Wed, Feb 25 2004	Item Help
Time (hh:mm:ss)	22:31:24	Menu Level ▸
		Change the day, month, year
▸ IDE Primary Master	[None]	
▸ IDE Primary Slave	[None]	
▸ IDE Secondary Master	[None]	<Week>
▸ IDE Secondary Slave	[None]	Sun. to Sat.
Drive A	[1.44M, 3.5"]	<Month>
Drive B	[None]	Jan. to Dec.
Floppy 3 Mode Suport	[Disabled]	
		<Day>
Holt On	[All, But Keyboard]	1 to 31 (or maximum allowed in the month)
Base Memory	640K	
Extended Memory	127M	<Year>
Total Memory	128M	1999 to 2098

↑↓→←: Move Enter: Select +/-/PU/PD: Value F10: Save ESC: Exit F1: General Help
F5: Previous Values F6: Fail-Save Default F7: Optimized Defaults

☞ Date

The date format is <week>, <month>, <day>, <year>.

- ⏩ Week The week, from Sun to Sat, determined by the BIOS and is display only
- ⏩ Month The month, Jan. Through Dec.
- ⏩ Day The day, from 1 to 31 (or the maximum allowed in the month)
- ⏩ Year The year, from 1999 through 2098

☞ Time

The times format in <hour> <minute> <second>. The time is calculated base on the 24-hour military-time clock. For example, 1 p.m. is 13:00:00.

☞ IDE Primary Master, Slave / IDE Secondary Master, Slave

The category identifies the types of hard disk from drive C to F that has been installed in the computer. There are two types: auto type, and manual type. Manual type is user-definable; Auto type which will automatically detect HDD type.

Note that the specifications of your drive must match with the drive table. The hard disk will not work properly if you enter improper information for this category.

If you select User Type, related information will be asked to enter to the following items. Enter the information directly from the keyboard and press <Enter>. Such information should be provided in the documentation form your hard disk vendor or the system manufacturer.

- ⏩ Cylinder Number of cylinders
- ⏩ Head Number of heads
- ⏩ Precomp Write precomp
- ⏩ Landing Zone Landing zone
- ⏩ Sector Number of sectors

If a hard disk has not been installed, select NONE and press <Enter>.

☞ **Drive A / Drive B**

The category identifies the types of floppy disk drive A or drive B that has been installed in the computer.

- ⏩ None — No floppy drive installed
- ⏩ 360K, 5.25" — 5.25 inch PC-type standard drive; 360K byte capacity.
- ⏩ 1.2M, 5.25" — 5.25 inch AT-type high-density drive; 1.2M byte capacity (3.5 inch when 3 Mode is Enabled).
- ⏩ 720K, 3.5" — 3.5 inch double-sided drive; 720K byte capacity
- ⏩ 1.44M, 3.5" — 3.5 inch double-sided drive; 1.44M byte capacity.
- ⏩ 2.88M, 3.5" — 3.5 inch double-sided drive; 2.88M byte capacity.

☞ **Floppy 3 Mode Support (for Japan Area)**

- ⏩ Disabled — Normal Floppy Drive. (Default value)
- ⏩ Drive A — Drive A is 3 mode Floppy Drive.
- ⏩ Drive B — Drive B is 3 mode Floppy Drive.
- ⏩ Both — Drive A & B are 3 mode Floppy Drives.

☞ **Halt on**

The category determines whether the computer will stop if an error is detected during power up.

- ⏩ No Errors — The system boot will not stop for any error that may be detected and you will be prompted.
- ⏩ All Errors — Whenever the BIOS detects a non-fatal error the system will be stopped.
- ⏩ All, But Keyboard — The system boot will not stop for a keyboard error; it will stop for all other errors. (Default value)
- ⏩ All, But Diskette — The system boot will not stop for a disk error; it will stop for all other errors.
- ⏩ All, But Disk/Key — The system boot will not stop for a keyboard or disk error; it will stop for all other errors.

☞ **Memory**

The category is display-only which is determined by POST (Power On Self Test) of the BIOS.

⏩ **Base Memory**

The POST of the BIOS will determine the amount of base (or conventional) memory installed in the system.

The value of the base memory is typically 512K for systems with 512K memory installed on the motherboard, or 640K for systems with 640K or more memory installed on the motherboard.

⏩ **Extended Memory**

The BIOS determines how much extended memory is present during the POST.

This is the amount of memory located above 1 MB in the CPU's memory address map.

Advanced BIOS Features

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Advanced BIOS Features

		Item Help
First Boot Device	[Floppy]	Menu Level▸
Second Boot Device	[HDD-0]	
Third Boot Device	[CDROM]	
Password Check	[Setup]	Select Boot Device priority
CPU Hyper-Threading #	[Enabled]	
		[Floppy] Boot from floppy
		[LS120] Boot from LS120
		[HDD-0] Boot from First HDD
		[HDD-1] Boot from Second HDD

↑↓→←: Move Enter: Select +/-/PU/PD: Value F10: Save ESC: Exit F1: General Help
F5: Previous Values F6: Fail-Save Default F7: Optimized Defaults

" # " System will detect automatically and show up when you install the Intel® Pentium® 4 processor with HT Technology.

☞ **First / Second / Third Boot Device**

- ⏩ Floppy Select your boot device priority by Floppy.
- ⏩ LS120 Select your boot device priority by LS120.
- ⏩ HDD-0~3 Select your boot device priority by HDD-0~3.
- ⏩ SCSI Select your boot device priority by SCSI.
- ⏩ CDROM Select your boot device priority by CDROM.
- ⏩ ZIP Select your boot device priority by ZIP.
- ⏩ USB-FDD Select your boot device priority by USB-FDD.
- ⏩ USB-ZIP Select your boot device priority by USB-ZIP.
- ⏩ USB-CDROM Select your boot device priority by USB-CDROM.
- ⏩ USB-HDD Select your boot device priority by USB-HDD.
- ⏩ LAN Select your boot device priority by LAN.
- ⏩ Disabled Select your boot device priority by Disabled.

☞ **Password Check**

- ⏩ System The system can not boot and can not access to Setup page will be denied if the correct password is not entered at the prompt.
- ⏩ Setup The system will boot, but access to Setup will be denied if the correct password is not entered at the prompt. (Default value)

☞ **CPU Hyper-Threading #**

- ⏩ Enabled Enables CPU Hyper Threading feature. Please note that this feature is only working for operating system with multi processors mode supported. (Default value)
- ⏩ Disabled Disables CPU Hyper Threading feature.

Integrated Peripherals

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Integrated Peripherals

			Item Help
	On-Chip IDE Channel 0	[Enabled]	Menu Level▸
	On-Chip IDE Channel 1	[Enabled]	
	OnChip Serial ATA	[Enabled]	
	AC97 Audio	[Auto]	
	VIA Onboard LAN	[Enabled]	
	USB 1.1 Controller	[Enabled]	
	USB 2.0 Controller	[Enabled]	
	USB Keyboard Support	[Disabled]	
	USB Mouse Support	[Disabled]	
	On-Chip LAN Boot ROM	[Disabled]	
	Onboard Serial Port 1	[3F8/IRQ4]	
	Onboard Serial Port 2	[2F8/IRQ3]	
	Onboard Parallel Port	[378/IRQ7]	
	Parallel Port Mode	[SPP]	
	Game Port Address	[201]	
	Midi Port Address	[Disabled]	
x	Midi Port IRQ	10	

↑↓→←: Move Enter: Select +/-/PU/PD: Value F10: Save ESC: Exit F1: General Help
F5: Previous Values F6: Fail-Save Default F7: Optimized Defaults

☞ **On-Chip IDE Channel0**

⏩ Enabled Enable onboard 1st channel IDE port. (Default value)
⏩ Disabled Disable onboard 1st channel IDE port.

☞ **On-Chip IDE Channel1**

⏩ Enabled Enable onboard 2nd channel IDE port. (Default value)
⏩ Disabled Disable onboard 2nd channel IDE port.

☞ **OnChip Serial ATA**

⏩ Enabled Enable VT8237 Serial ATA supported. (Default value)
⏩ Disabled Disable VT8237 Serial ATA supported.

☞ **AC97 Audio**

⏩ Auto Enable onboard AC'97 audio function. (Default value)
⏩ Disabled Disable this function.

☞ **VIA Onboard LAN**

⏩ Enabled Enable onboard LAN function. (Default value)
⏩ Disabled Disable onboard LAN function.

☞ **USB 1.1 Controller**

Disable USB 1.1 host controller if you are not using USB devices.
⏩ Enabled Enable USB 1.1 controller. (Default value)
⏩ Disabled Disable USB 1.1 controller.

☞ **USB 2.0 Controller**

Disable USB 2.0 host controller if you are not using high speed USB devices.
⏩ Enabled Enable USB 2.0 controller. (Default value)
⏩ Disabled Disable USB 2.0 controller.

☞ **USB Keyboard Support**

⏩ Enabled Enable USB keyboard support.
⏩ Disabled Disable USB keyboard support. (Default value)

☞ **USB Mouse Support**
- ⏩ Enabled — Enable USB mouse support.
- ⏩ Disabled — Disable USB mouse support. (Default value)

☞ **On-Chip LAN Boot ROM**

This function decide whether to invoke the boot ROM of the onboard LAN chip.
- ⏩ Enabled — Enable this function.
- ⏩ Disabled — Disable this function. (Default value)

☞ **Onboard Serial Port 1**
- ⏩ Auto — BIOS will automatically setup the port 1 address.
- ⏩ 3F8/IRQ4 — Enable onboard Serial port 1 and address is 3F8. (Default value)
- ⏩ 2F8/IRQ3 — Enable onboard Serial port 1 and address is 2F8.
- ⏩ 3E8/IRQ4 — Enable onboard Serial port 1 and address is 3E8.
- ⏩ 2E8/IRQ3 — Enable onboard Serial port 1 and address is 2E8.
- ⏩ Disabled — Disable onboard Serial port 1.

☞ **Onboard Serial Port 2**
- ⏩ Auto — BIOS will automatically setup the port 2 address.
- ⏩ 3F8/IRQ4 — Enable onboard Serial port 2 and address is 3F8.
- ⏩ 2F8/IRQ3 — Enable onboard Serial port 2 and address is 2F8. (Default value)
- ⏩ 3E8/IRQ4 — Enable onboard Serial port 2 and address is 3E8.
- ⏩ 2E8/IRQ3 — Enable onboard Serial port 2 and address is 2E8.
- ⏩ Disabled — Disable onboard Serial port 2.

☞ **Onboard Parallel Port**
- ⏩ 378/IRQ7 — Enable onboard LPT port and address is 378/IRQ7. (Default value)
- ⏩ 278/IRQ5 — Enable onboard LPT port and address is 278/IRQ5.
- ⏩ Disabled — Disable onboard LPT port.
- ⏩ 3BC/IRQ7 — Enable onboard LPT port and address is 3BC/IRQ7.

☞ **Parallel Port Mode**
- ⏩ SPP — Using Parallel port as Standard Parallel Port. (Default value)
- ⏩ EPP — Using Parallel port as Enhanced Parallel Port.
- ⏩ ECP — Using Parallel port as Extended Capabilities Port.
- ⏩ ECP+EPP — Using Parallel port as ECP & EPP mode.

☞ **Game Port Address**
- ⏩ 201 — Set Game Port Address to 201. (Default value)
- ⏩ 209 — Set Game Port Address to 209.
- ⏩ Disabled — Disable this function.

☞ **Midi Port Address**
- ⏩ 300 — Set Midi Port Address to 300.
- ⏩ 330 — Set Midi Port Address to 330.
- ⏩ Disabled — Disable this function. (Default value)

☞ **Midi Port IRQ**
- ⏩ 5 — Set Midi Port IRQ to 5.
- ⏩ 10 — Set Midi Port IRQ to 10. (Default value)

Power Management Setup

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Power Management Setup

			Item Help
	ACPI Suspend Type	[S1(POS)]	Menu Level▸
x	USB Device Wake-Up From S3	Disabled	
	Soft-Off by PWRBTN	[Instant-Off]	
	AC BACK Function	[Soft-Off]	[S1]
	Keyboard Power On	[Disabled]	Set suspend type to
	Mouse Power On	[Disabled]	Power On Suspend under
	PME Event Wake Up	[Enabled]	ACPI OS
	Modem Ring Resume	[Enabled]	
	Resume by Alarm	[Disabled]	[S3]
x	Date (of Month) Alarm	Everyday	Set suspend type to
x	Time (hh:mm:ss) Alarm	0 : 0 : 0	Suspend to RAM under
			ACPI OS

↑↓→←: Move Enter: Select +/-/PU/PD: Value F10: Save ESC: Exit F1: General Help
F5: Previous Values F6: Fail-Save Default F7: Optimized Defaults

☞ ACPI Suspend Type

- ⏩ S1(POS) — Set ACPI suspend type to S1/POS (Power On Suspend). (Default value)
- ⏩ S3(STR) — Set ACPI suspend type to S3/STR (Suspend To RAM).

☞ USB Device Wake-Up From S3

- ⏩ Disabled — Disable this function. (Default value)
- ⏩ Enable — Enable USB device wake up system from S3 suspend type.

☞ Soft-Off by PWRBTN

- ⏩ Instant-off — Press power button then power off instantly. (Default value)
- ⏩ Delay 4 Sec. — Press power button 4 seconds to power off. Enter suspend if button is pressed less than 4 seconds.

☞ AC Back Function

- ⏩ Soft-Off — Always in off state when AC back. (Default value)
- ⏩ Memory — System power on depends on the status before AC lost.
- ⏩ Full-On — Always power on the system when AC back.

☞ Keyboard Power On

- ⏩ Disabled — Disabled this function. (Default value)
- ⏩ Password — Enter from 1 to 5 characters to set the keyboard power on password.
- ⏩ Keyboard 98 — If there is a "POWER" button on your keyboard, you can press the key to power on your system.

☞ Mouse Power On

- ⏩ Disabled — Disabled this function. (Default value)
- ⏩ Enabled — Power on system by mouse event.

☞ PME Event Wake Up

- ⏩ Disabled — Disable this function.
- ⏩ Enabled — Enable PME as wake up event. (Default value)

☞ **Modem Ring Resume**

An incoming call via modem can awake the system from any suspend state.

⏩ Disabled Disable Modem Ring on function.

⏩ Enabled Enable Modem Ring on function. (Default value)

☞ **Resume by Alarm**

You can set "Resume by Alarm" item at "Enabled" and key in data/time to power on system.

⏩ Disabled Disable this function. (Default value)

⏩ Enabled Enable alarm function to POWER ON system.

If RTC Alarm Lead To Power On is Enabled.

Date (of Month) Alarm : Everyday, 1~31

Time (hh: mm: ss) Alarm : (0~23) : (0~59) : (0~59)

PnP/PCI Configurations

CMOS Setup Utility-Copyright (C) 1984-2004 Award Software
PnP/PCI Configurations

PCI 1 IRQ Assignment	[Auto]	Item Help
PCI 2 IRQ Assignment	[Auto]	Menu Level▸
PCI 3 IRQ Assignment	[Auto]	

↑↓→←: Move Enter: Select +/-/PU/PD: Value F10: Save ESC: Exit F1: General Help
F5: Previous Values F6: Fail-Save Default F7: Optimized Defaults

☞ **PCI 1 IRQ Assignment**

⏩ Auto Auto assign IRQ to PCI 1. (Default value)

⏩ 3,4,5,7,9,10,11,12,14,15 Set IRQ 3,4,5,7,9,10,11,12,14,15 to PCI 1.

☞ **PCI 2 IRQ Assignment**

⏩ Auto Auto assign IRQ to PCI 2. (Default value)

⏩ 3,4,5,7,9,10,11,12,14,15 Set IRQ 3,4,5,7,9,10,11,12,14,15 to PCI 2.

☞ **PCI 3 IRQ Assignment**

⏩ Auto Auto assign IRQ to PCI 3. (Default value)

⏩ 3,4,5,7,9,10,11,12,14,15 Set IRQ 3,4,5,7,9,10,11,12,14,15 to PCI 3.

PC Health Status

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PC Health Status

		Item Help
Vcore	1.424V	Menu Level▸
DDR25V	2.496V	
+3.3V	3.296V	
+12V	11.858V	
Current CPU Temperature	29°C	
Current CPU FAN Speed	3125 RPM	
Current SYSTEM FAN Speed	0 RPM	
CPU FAN Fail Warning	[Disabled]	
SYSTEM FAN Fail Warning	[Disabled]	

↑↓→←: Move Enter: Select +/-/PU/PD: Value F10: Save ESC: Exit F1: General Help
F5: Previous Values F6: Fail-Save Default F7: Optimized Defaults

☞ **Current Voltage (V) Vcore / DDR25V / +3.3V / +12V**

⏩ Detect system's voltage status automatically.

☞ **Current CPU Temperature**

⏩ Detect CPU temperature automatically.

☞ **Current CPU/SYSTEM FAN Speed (RPM)**

⏩ Detect CPU/system fan speed status automatically.

☞ **CPU FAN Fail Warning**

⏩ Disabled Fan warning function disable. (Default value)
⏩ Enabled Fan warning function enable.

☞ **SYSTEM FAN Fail Warning**

⏩ Disabled Fan warning function disable. (Default value)
⏩ Enabled Fan warning function enable.

Frequency/Voltage Control

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Frequency/Voltage Control

			Item Help
	CPU Clock Ratio	[15X]	Menu Level▸
	Auto Detect PCI/DIMM Clk	[Enabled]	
	Spread Specturm	[Enabled]	
	CPU Host Clock Control	[Disabled]	
x	CPU Clock	100	
	DRAM Clock	[By SPD]	
	AGP OverVoltage Control	[Auto]	
	DIMM OverVoltage Control	[Auto]	

↑↓→←: Move Enter: Select +/-/PU/PD: Value F10: Save ESC: Exit F1: General Help
F5: Previous Values F6: Fail-Save Default F7: Optimized Defaults

CAUTION Incorrect using these features may cause your system broken. For power End-User use only!

☞ **CPU Clock Ratio**

This option will not be shown or not be available if you are using a CPU with the locked ratio.
⏩ 15X~21X It depends on CPU Clock Ratio.
This setup option will automatically assign by CPU detection.
For Willamette CPU: 8X~23X default: 14X
For C-Stepping P4: 8X, 10X~24X default: 15X
For Northwood CPU: 12X~24X default: 16X
The option will display "Locked" and read only if the CPU ratio is not changeable.

☞ **Auto Detect PCI/DIMM Clk**

⏩ Enabled Enable PCI/DIMM clock auto-detection function. (Default value)
⏩ Disabled Disable this function.

☞ **Spread Spectrum**

⏩ Enabled Enable clock spread spectrum. (Default value)
⏩ Disabled Disable this function.

☞ **CPU Host Clock Control**

If system hangs up before enter CMOS setup utility, wait for 20 sec for times out reboot. When time out occur, system will reset and run at CPU default Host clock at next boot.

⏩ Disabled Disable CPU Host Clock Control. (Default value)
⏩ Enabled Enable CPU Host Clock Control.

☞ **CPU Clock**

⏩ 100MHz ~ 132MHz Set CPU Host Clock from 100MHz to 132MHz. (The values depend on CPU clock ratio.)

☞ **DRAM Clock**

⏩ By SPD	Set DRAM Clock from as DRAM required. (Default value)
⏩ 100-DDR200	Set at "100-DDR200" if you use DDR200 memory module.
⏩ 133-DDR266	Set at "133-DDR266" if you use DDR266 memory module.
⏩ 166-DDR333	Set at "166-DDR333" if you use DDR333 memory module.
⏩ 200-DDR400	Set at "200-DDR400" if you use DDR400 memory module.

☞ **AGP OverVoltage Control**

Increase AGP voltage may get stable for over-clock. But it may damage to AGP card if improper setting this feature.

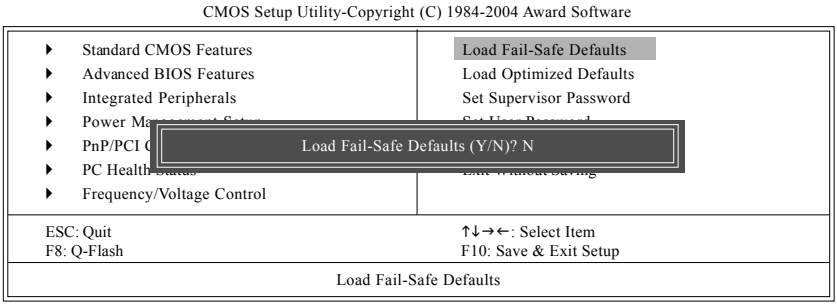
⏩ Auto	Supply AGP voltage as AGP required(1.5V). (Default value)
⏩ +0.1V	Increase AGP voltage +0.1V.
⏩ +0.2V	Increase AGP voltage +0.2V.

☞ **DIMM OverVoltage Control**

Increase DIMM voltage may get stable for over-clock. But it may damage to memory module if improper setting this feature.

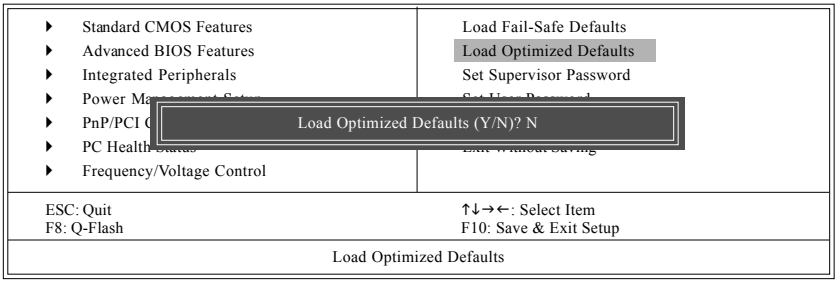
⏩ Auto	Supply DIMM voltage as memory module required(2.5V). (Default value)
⏩ +0.1V	Increase DIMM voltage +0.1V.
⏩ +0.2V	Increase DIMM voltage +0.2V.

Load Fail-Safe Defaults



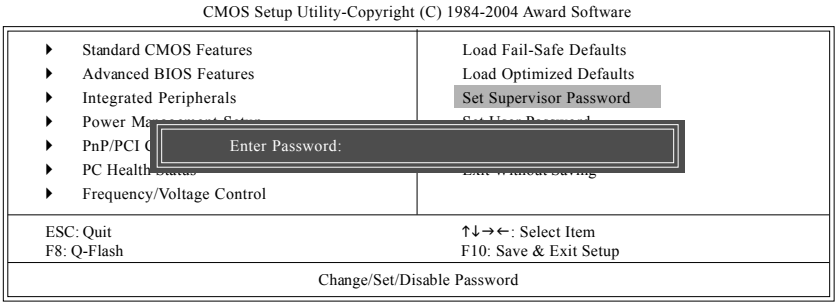
Fail-Safe defaults contain the most appropriate values of the system parameters that allow minimum system performance.

Load Optimized Defaults



Selecting this field loads the factory defaults for BIOS and Chipset Features which the system automatically detects.

Set Supervisor/User Password



When you select this function, the following message will appear at the center of the screen to assist you in creating a password.

Type the password, up to eight characters, and press <Enter>. You will be asked to confirm the password. Type the password again and press <Enter>. You may also press <Esc> to abort the selection and not enter a password.

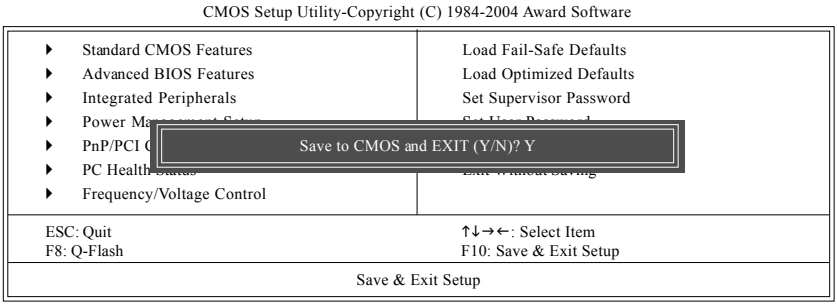
To disable password, just press <Enter> when you are prompted to enter password. A message "PASSWORD DISABLED" will appear to confirm the password being disabled. Once the password is disabled, the system will boot and you can enter Setup freely.

The BIOS Setup program allows you to specify two separate passwords:
SUPERVISOR PASSWORD and a USER PASSWORD. When disabled, anyone may access all BIOS Setup program function. When enabled, the Supervisor password is required for entering the BIOS Setup program and having full configuration fields, the User password is required to access only basic items.

If you select "System" at "Password Check" in Advance BIOS Features Menu, you will be prompted for the password every time the system is rebooted or any time you try to enter Setup Menu.

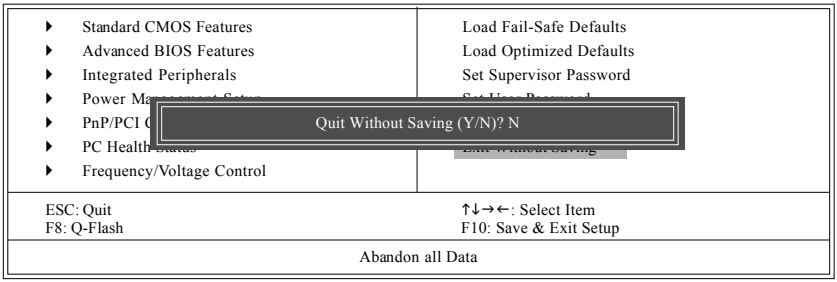
If you select "Setup" at "Password Check" in Advance BIOS Features Menu, you will be prompted only when you try to enter Setup.

Save & Exit Setup



Type "Y" will quit the Setup Utility and save the user setup value to RTC CMOS.
Type "N" will return to Setup Utility.

Exit Without Saving



Type "Y" will quit the Setup Utility without saving to RTC CMOS.
Type "N" will return to Setup Utility.

Chapter 3 Install Drivers

Install Drivers

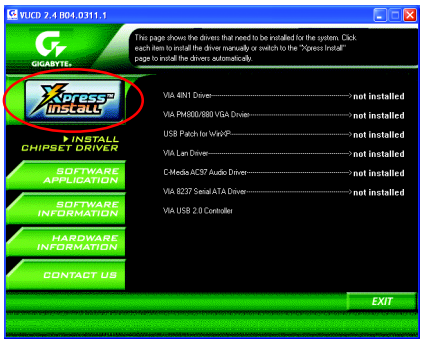
NOTE

Pictures below are shown in Windows XP

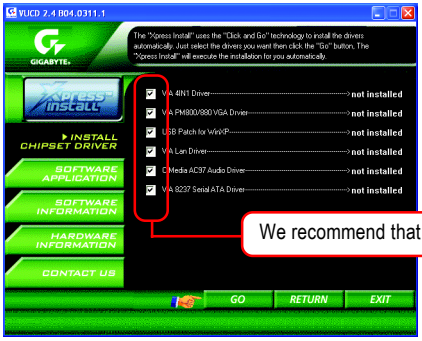
Insert the driver CD-title that came with your motherboard into your CD-ROM drive, the driver CD-title will auto start and show the installation guide. If not, please double click the CD-ROM device icon in "My computer", and execute the setup.exe.

Install Chipset Drivers

This page shows the drivers that need to be installed for the system. Click each item to install the driver manually or switch to the Xpress Install to install the drivers automatically.

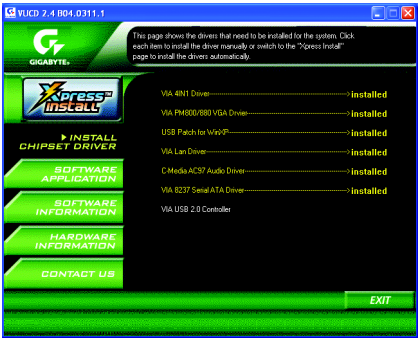


The "Xpress Install" uses the"Click and Go" technology to install the drivers automatically. Just select the drivers you want then click the "GO" button. The Xpress Install will execute the installation for you automatically.



NOTE

Massage: Some device drivers will restart your system automatically. After restarting your system the "Xpress Install" will continue to install other drivers.



NOTE Driver install finished !
You have to reboot system !

Item Description

- VIA 4IN1 Driver
  For INF, AGP, IDE and DMA driver.
- VIA PM800/880 VGA Driver
  VGA driver for VGA integrated VIA PM800/880 chipset.
- USB Patch for WinXP
  This patch driver can help you to resolve the USB device wake up S3 hang up issue in XP.
- VIA Lan Driver
  For VIA phy family Lan driver.
- C-Media AC97 Audio Driver
  Audio driver for C-Media AC97 codec chipset.
- VIA 8237 Serial ATA Driver
  For VIA 8237 SATA driver.
- VIA USB 2.0 Controller
  For VIA south bridge.

For USB2.0 driver support under Windows XP operating system, please use Windows Service Pack. After install Windows Service Pack, it will show a question mark "?" in "Universal Serial Bus controller" under "Device Manager". Please remove the question mark and restart the system (System will auto-detect the right USB2.0 driver).

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